



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,168	04/09/1999	KAZUNORI SAIDA	4041J000216	8291
27572	7590	10/03/2003	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C.			FORD, JOHN K	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

3743

DATE MAILED: 10/03/2003

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

Applicant(s)

09/289168

Saida et al.

Examiner

Art Unit

FORD

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/5/03 (RCE + 3 month ext)
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 31-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Applicants' response (Paper No. 24, May 15, 2003) has been carefully considered. Claims 1-30 and 38-44 have been cancelled leaving claims 31-37 as the only pending claims.

Regarding the amendments made to claim 31, the Examiner does remember briefly discussing this case (see Paper No. 24, page 6, lines 6-9) by telephone. It was the Examiner's impression, though it may have been mistaken, that applicants intended to add language to the existing claim 31 regarding placing a duct air inlet 20a in the side of the casing which did not discharge air into the plenum below evaporator 21 in the area below tank portion 21e, in addition to what was already recited in claim 31. The Examiner did not expect to see so many of the other limitations deleted.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kujirai et al. (5,715,705) in view of Todd (3,008,694).

Kujirai in Figure 7 shows a cooling heat exchanger 10 with a fan inlet 322 that feeds air into the casing at a point immediately below the center of the heat exchanger 10 and not below the tank portions 1a or 1b. Note the heat exchanger 10 shown in

Figure 7 can, in alternative embodiments shown in Figures 9B and 9C, be tilted. While the tubes in Kujirai are not explicitly illustrated, it is submitted that those of ordinary skill would know that the tubes extend perpendicularly to the axis of tanks 1a and 1b (i.e. the tubes are in the plane of the paper, in Figure 7)

In the event, such were not known, it is fairly taught by Todd, which, if necessary is relied upon to show tubes oriented to the fan as claimed. Todd also teaches, very clearly, in Figures 10 and 11, fan discharges 44 into the plenum below heat exchanger 48 that are not near the extreme ends of the heat exchanger core 48 but rather discharge air more toward the central portion of the heat exchanger. To have oriented, in Kujirai, the fan inlet 322 toward the center of the portion of heat exchanger 10 in the modifications of Figure 7 shown in Figures 9B or 9C, away from tanks 1a and 1b, would have been obvious to prevent condensate problems and secure good distribution of air flow across the lower face of the heat exchanger.

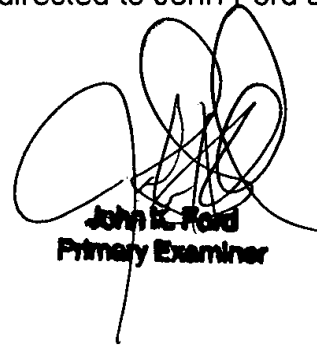
Claims 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 31-37 above, and further in view of JP 8 – 104129 or JP 7-35496.

JP'129 teaches at 21K (see Figs. 10 and 13) structures that prevent direct air flow under the tank portion of an evaporator to prevent disturbing the condensed water. Similarly JP'496 teaches structures 11 at the extreme ends of an evaporator core for

preventing air flow at the ends, which would lead to blowing condensed water into the compartment.

In view of the teachings of either of these latter two references it would have been obvious to oriented the fan discharge in the sidewall of the casing of Kujirai/Todd away from the areas where the condensate has a tendency to collect and where air flow would tend to blow such condensate around.

Any inquiry concerning this communication should be directed to John Ford at telephone number 703-308-2636.



John K. Ford
Primary Examiner